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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,238

05/04/2006

Kyoji Kitamura

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1946

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EXAMINER

LAM, HUNG Q

ART UNIT

PAPER NUMBER

2883

NOTIFICATION DATE

DELIVERY MODE

08/13/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/578,238	<b>Applicant(s)</b> KITAMURA ET AL.	
	<b>Examiner</b> HUNG LAM	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 12-16 is/are rejected.
- 7) ☒ Claim(s) 4-10 and 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/21/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Application***

Claims 3 and 11 are cancelled.

Claims 1-2, 4-10 and 12-20 are pending in this application.

### ***Response to Argument***

1. Applicant's arguments filed on April 07, 2008 have been fully considered but they are not persuasive as the following reasons:
2. Regarding to the arguments to independent claim 1. The Applicants allege that neither Moore nor Holland "fails to show or suggest at least a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with phenyl rings excluded therefrom and one or more radical polymerization groups by radical polymerization". The Examiner respectfully disagrees with these arguments, since arguments is based on the recent amended to the claims, which introduces the new issue/limitations to these independent claims, therefore, a new reference and a new ground of rejection are introduced as necessitated by amendments to above claims accordingly (see the claims rejection section below).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yanome** (US. Pub. 2004/0028914)

**Regarding claims 1**, **Yanome** discloses a coating composition for a substrate, composed of a crosslinked and cured-resin-product (i.e. formula II in paragraph [0014] or  $\text{C}_6\text{F}_{11}\text{CH}_2\text{OC}(=\text{O})\text{C}(\text{CH}_3)=\text{CH}_2$  in paragraph [0016]), the crosslinked and cured resin product comprising a copolymer obtained by copolymerizing monomers comprising a completed fluorinated alkyl group/ring  $\text{R}_f$  and being prepared by radical polymerization, wherein the crosslinked and cured resin product is prepared from a crosslinkable fluorine-containing monomer composition containing completed fluorinated alkyl group/ring  $\text{R}_f$  with phenyl rings excluded therefrom and one or more radical polymerization groups by radical polymerization, and wherein

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the radical polymerization group is a methacryloyloxy group (see formula II, [0013]-[0016], and [0021]-[0022]. Yanome does not expressly call the above completed fluorinated alkyl group/ring  $R_f$  is a perfluorocyclohexane ring, however, it would have been obvious to the one having ordinary skill in the art would recognized that the above completed fluorinated alkyl group/ring  $R_f$  is the perfluorocyclohexane ring, since it has the same formula.

**Regarding claim 13**, in accordance with the rejection of claim 1, **Yanome** further discloses the radical polymerization method is a heating/thermal and photo initiator method ([0022]).

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yanome** in view of **Holland et al.** (US. Pat. 3,868,408).

**Regarding claim 2**, in accordance with the rejection of claim 1, **Yanome** further discloses the claimed invention except for one or more perfluorocyclohexane rings derived from one of monosubstituted, disubstituted and trisubstituted monomer, are included as the perfluorocyclohexane ring.

**Holland et al.** disclose as new compositions of matter polymers wherein a formula  $C_6F_{10}$  represents a monosubstituted or disubstituted monomer perfluorocyclohexane ring (col. 2, lines 37-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **Holland et al.** in **Yanome** as to derive the perfluorocyclohexane ring from a compatible of the monosubstituted or disubstituted monomer. The motivation for doing so is because “with a compatible monomer, by conventional polymerization techniques to obtain polymeric materials having useful characteristics including high thermal stability, high glass transition temperatures and hydrolytic stability”, and also “...when monomers or polymeric

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materials prepared in accordance with the present invention are applied to suitable substrates”  
(Holland et al. col. 2 lines 45-55).

**Claims 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yanome** in view of **DeSimone et al.** (US. Pub. 2002/0119398)

**Regarding claim 12**, in accordance with the rejection of claim 1, **Yanome** further discloses the claimed invention **except** for the limitation of one or more radical polymerization groups contains an alkylene group represented by general formula  $-(CH_2)_n$ -between the perfluorocyclohexane ring and the radical polymerization group.

**DeSimone et al.** disclose a coating method using self-assembling monolayer (SAMs) including a functionalized alkane thiols such as those represented by the formula:  $X-(CH_2)_n-S-H$  ([0013]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **DeSimone et al.** in **Yanome** as to provide the radical polymerization groups contains an alkylene group represented by general formula  $-(CH_2)_n$ -, between the perfluorocyclohexane ring and the radical polymerization group. The motivation for doing so is by providing the coating method to a substrate with the teachings above, wherein n ranges from 1 to 1000, would provides a wide range of components/materials can be used to form a coating on the substrate (DeSimone et al. [0012]-[0014]).

**Regarding claim 14**, in accordance with the rejection of claim 1, **Yanome** further discloses the claimed invention **except** for the limitation of wherein Young’s modulus of the cured-resin product is 2500 MPa or more. Additionally, **DeSimone et al.** disclose the polymer resin is determined to be soluble at 5000 psi ([0081]).

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Since applicant has not pointed to any criticality of such that optimum value, it would have been obvious to the one having ordinary skill in the art at the time the invention was made would set the polymer resin is determined to be soluble at the pressure of 2500 MPa, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The motivation for doing so is to would be that high modulus is desirable in facilitating connectorization of optical fibers as known in the art. This rejection may be overcome by a showing or unexpected results associated with such a value.

**Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yanome** in view of **Suzuki et al.** (US. Pub. 2003/0026574)

**Regarding claims 15 and 16**, **Yanome** further discloses the claimed invention **except** for the optical component composed of a cured-resin-product is an optical waveguide-like part, which is also prepared by stamper method.

**Suzuki et al.** disclose an optical waveguide provided on a substrate, which comprise a core and a clad formed around the core, wherein the clad is made of a fluorinated alicyclic structure-containing polymer having functional groups and fluorinated-containing solvent such as perfluorocyclohexane ([0078]-[0081]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **Suzuki et al.** in **Yanome** by using a cured-resin product in preparing an optical waveguide-like part by a stamper method. The motivation for doing so is because the optical waveguide can be obtained in the same manner as the optical cladding, and "...the core material, together with the fluorinated alicyclic structure-containing polymer having functional groups, a compound having a functional group reactive with the functional group, as a

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compound to increase the refractive index, the diffusion of the compound into the clad can be suppressed” (Suzuki et al. [0089]-[0091], [0094], [0101]).

***Allowable Subject Matter***

Claims 4-10 and 17-20 are objected as stated previously as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Cited Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Szum et al.** (US. Pub. 2002/0182410)

**Savu et al.** (US. Pat. 5,148,511).

**Suzuki et al.** (US. Pat. 6,594,431).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Lam whose telephone number is 571-272-9790. The examiner can normally be reached on M - F 07:30 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Lam//BRIAN M. HEALY/ for FRANK FONT, SPE of Art Unit 2883 Assistant Examiner, Art Unit 2883	
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